

SEQUENCE LISTING

#14

<110> FISCHER, Rainer
SCHILLBERG, Stefan
NAHRING, Jorg
SACK, Markus
MONECKE, Michael
LIAO, Yu-Cai
SPIEGEL, Holger
ZIMMERMAN, Sabine
EMANS, Neil



<120> Molecular Pathogenicide Mediated Plant Disease
Resistance

<130> 0147-0189P

<140> 09/419,788

<141> 1999-10-18

<150> 98 11 9630.6 EP

<151> 1998-10-16

<150> 66/BOM/1998 INDIA

<151> 1998-10-16

<160> 163

<170> PatentIn Ver. 2.1

<210> 1

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 1

gccgtcgacg aggacctgaa caaggtgttc cca

33

<210> 2

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 2

gcctctagat cagaaatcct ttctcttg

28

<210> 3

<211> 1378

<212> DNA

<213> Artificial Sequence

INS
C18

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 3

gaattcacac acaatcagat ttatagagag atttataaaa aaaaaaaaac atatggattt 60
tcaagtgcag attttcagct tcctgctaata cagtgcctca gtcataatat ctagaggaca 120
aattgtttctc acccagttctc cagcaatcat gtctgcatct ccaggggaga aggtcaccat 180
gacctgcagt gccagttcaa gtgtaagtaa aatgcaatgg tatcagcaga agtcaggcac 240
ctcccccaaa agatggattt atgacacatc caaactggcc tctggagtcc ctggtcgctt 300
cagtggcagt gggctctgga cctcttactc tctcacaatc agcagcatgg aggctgaaga 360
tgctgccact tattactgcc agcagtggag tagtaaccgg ctacagttcg gtgctgggac 420
caagctggag ataaaaggct ctactagtgg ttccgggaag agctctgaag gtaaagggtga 480
ggccagctg cagcagttctg gacctgagct ggtaaatacct ggggcttcag tgaagatgtc 540
ctgcaaggcc tctggatata cattcattac ctatgttatg cactgggtga agcagaagcc 600
tgggcagggc cttgagtggg ttggatatata taatcctaac aaagacggta caaagttcaa 660
tgagaagttc aaaggcaagg ccacactgac ttcagacaaa tctccaaca cagcctacat 720
ggagctcagc agcctgacct ctgaggactc tgcggtctat tactgtgcaa gagactatga 780
ttacgactgg tttgcttact ggggccaggg gactctggtc actgtctctg cagtgcgacg 840
ggacctgaac aaggtgttcc caccgaggt cgctgtgttt gagccatcag aagcagagat 900
ctcccacacc caaaaggcca cactgggtgt cctggccaca ggcttcttcc ctgaccacgt 960
ggcctcgaag gagcagcccg ccctcaatga ctccagatac tgcttgagca gccgcctgag 1020
ggctctcgcc accttctggc agaacccccg caaccacttc cgctgtcaag tccagttcta 1140
cgggctctcg gagaatgacg agtggaccca ggatagggcc aaaccggtca cccagatcgt 1200
cagcgccgag gcctggggta gagcagactg tggcttaacc tcggtgtcct accagcaagg 1260
ggctctgtct gccaccatcc tctatgagat cctgctaggg aaggccaccc tgtatgctgt 1320
gctggtcagt gcccttgtgt tgatggccat ggtcaagaga aaggatttct gatctaga 1378

<210> 4

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 4

gttttcccag tcacgac

17

<210> 5

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 5

ggctctagac gctcgagttt aaaacctata atacacatag atgttgcaat aaagcaaaat 60
cagtatacaa atagtccacc agaaatactc cctatacttc ttagcggccg cagaacctcc 120
acctccgtcg 130

<210> 6

<211> 148

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 6

```
ggctctagac gctcgagttt agaaatgcct agatctctta atcaagatga agagcatcaa 60
gcaaattccg agcagcgtg ccaagaaagt caccaagagc aaagttcttc ccaatctcct 120
agcggccgca gaacctccac ctccgtcg                                     148
```

<210> 7

<211> 145

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 7

```
ggctctagac gctcgagttt aatcctctgc catgtagagt ctatacatga gagcaaccac 60
gagtgtgat atcgctggga tcacccaatt ggtccaccat gaagagttag actcaacagc 120
ggccgcagaa cctccacctc cgtcg                                     145
```

<210> 8

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 8

```
ggctctagac gctcgagttt aagtgaagaa ataaataaca ataacaacaa caataatagc 60
acaaatagca ccaagcataa tcatcatctt acaattcttc caagcggccg cagaacctcc 120
acctccgtcg                                     130
```

<210> 9

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 9

```
gttttcccag tcacgac                                     17
```

<210> 10

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 10
ggctctagac gctcgagttt agaaatgcct agatc

35

<210> 11
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 11
ggctctagac gctcgagttt aagtgaagaa ataaataaca ataacaacaa c

51

<210> 12
<211> 900
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 12
gaattcacaa cacaaatcag atttatagag agatttataa aaaaaaaaaa acatatgcaa 60
attgttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
acctgcagtg ccagttcaag tgtaagtaaa atgcaatggt atcagcagaa gtcaggcacc 180
tcccccaaaa gatggattta tgacacatcc aaactggcct ctggagtccc tggtcgcttc 240
agtggcagtg ggtctgggac ctcttactct ctcacaatca gcagcatgga ggctgaagat 300
gctgccactt attactgcca gcagtggagt agtaaccgc tcacgttcgg tgctgggacc 360
aagctggaga taaaaggctc tactagtgtg tccgggaaga gctctgaagg taaagggtgag 420
gtccagctgc agcagtctgg acctgagctg gtaaatcctg gggcttcagt gaagatgtcc 480
tgcaaggcct ctggatacac attcattacc tatgttatgc actgggtgaa gcagaagcct 540
gggcagggcc ttgagtggat tggatatatt aatcctaaca aagacggtac aaagttcaat 600
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccaacac agcctacatg 660
gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
tacgactggt ttgcttactg gggccagggg actctggtca ctgtctctgc agtcgacgga 780
ggtggaggtt ctgcggccgc taagaagtat agggagtatt tcttgtggac tatttgtata 840
ctgattttgc tttattgcaa catctatgtg tattataggt tttaaactcg agcgtctaga 900

<210> 13
<211> 918
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 13
gaattcacaa cacaaatcag atttatagag agatttataa aaaaaaaaaa acatatgcaa 60
attgttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
acctgcagtg ccagttcaag tgtaagtaaa atgcaatggt atcagcagaa gtcaggcacc 180
tcccccaaaa gatggattta tgacacatcc aaactggcct ctggagtccc tggtcgcttc 240

```

agtggcagtg ggtctgggac ctcttactct ctcacaatca gcagcatgga ggctgaagat 300
gctgccactt attactgcca gcagtggagt agtaaccgcg tcacgttcgg tgctgggacc 360
aagctggaga taaaaggctc tactagtggg tccgggaaga gctctgaagg taaagggtgag 420
gtccagctgc agcagtctgg acctgagctg gtaaatacctg gggcttcagt gaagatgtcc 480
tgcaaggcct ctggatacac attcattacc tatgttatgc actgggtgaa gcagaagcct 540
gggcagggcc ttgagtggat tggatatatt aatcctaaca aagacggtac aaagttcaat 600
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccaacac agcctacatg 660
gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
ggtggagggt ctgcggccgc taggagattg ggaagaactt tgctcttggt gactttcttg 840
gcagcgtgc tcggaatttg cttgatgctc ttcactctga ttaagagatc taggcatttc 900
taaactcgag cgtctaga
918

```

<210> 14

<211> 915

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 14

```

gaattcacaa cacaaatcag atttatagag agatttataa aaaaaaaaaa acatatgcaa 60
attgttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180
tccccaaaaa gatggattta tgacacatcc aaactggcct ctggagtccc tggtcgcttc 240
agtggcagtg ggtctgggac ctcttactct ctcacaatca gcagcatgga ggctgaagat 300
gctgccactt attactgcca gcagtggagt agtaaccgcg tcacgttcgg tgctgggacc 360
aagctggaga taaaaggctc tactagtggg tccgggaaga gctctgaagg taaagggtgag 420
gtccagctgc agcagtctgg acctgagctg gtaaatacctg gggcttcagt gaagatgtcc 480
tgcaaggcct ctggatacac attcattacc tatgttatgc actgggtgaa gcagaagcct 540
gggcagggcc ttgagtggat tggatatatt aatcctaaca aagacggtac aaagttcaat 600
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccaacac agcctacatg 660
gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
ggtggagggt ctgcggccgc tggtgagctc aaactctcat ggtggaccaa ttgggtgatc 840
ccagcgatat cagcactcgt ggttgctctc atgtatagac tctacatggc agaggattaa 900
actcgagcgt ctaga
915

```

<210> 15

<211> 900

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 15

```

gaattcacaa cacaaatcag atttatagag agatttataa aaaaaaaaaa acatatgcaa 60
attgttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180
tccccaaaaa gatggattta tgacacatcc aaactggcct ctggagtccc tggtcgcttc 240
agtggcagtg ggtctgggac ctcttactct ctcacaatca gcagcatgga ggctgaagat 300
gctgccactt attactgcca gcagtggagt agtaaccgcg tcacgttcgg tgctgggacc 360
aagctggaga taaaaggctc tactagtggg tccgggaaga gctctgaagg taaagggtgag 420
gtccagctgc agcagtctgg acctgagctg gtaaatacctg gggcttcagt gaagatgtcc 480
tgcaaggcct ctggatacac attcattacc tatgttatgc actgggtgaa gcagaagcct 540

```

gggcagggcc ttgagtggat tggatatatt aatcctaaca aagacggtac aaagttcaat 600
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccaacac agcctacatg 660
gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
ggtggagggt ctgcggccgc ttggaagaat tgtaagatga tgattatgct tgggtgctatt 840
tgtgctatta ttgttggtgt tattgttatt tatttcttca cttaaactcg agcgtctaga 900

<210> 16

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 16

gcggaattcg acgtcgccat ggccttcctc ggcgacggcg gcgac 45

<210> 17

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 17

gcgaagcttg tcgaccggcg gtttgccggg ctggctg 37

<210> 18

<211> 1604

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 18

gaattcacac acaatcagat ttatagagag atttataaaa aaaaaaaaaac atatggattt 60
tcaagtgcag attttcagct tcctgctaata cagtgcctca gtcataatat ctagaggaca 120
aattgttctc acccagtcctc cagcaatcat gtctgcatct ccaggggaga aggtcaccat 180
gacctgcagt gccagttcaa gtgtaagtaa aatgcaatgg tatcagcaga agtcaggcac 240
ctccccaaa agatggattt atgacacatc caaactggcc tctggagtcc ctggctcgctt 300
cagtggcagt gggctctggga cctcttactc tctcacaatc agcagcatgg aggctgaaga 360
tgctgccact tattactgcc agcagtggag tagtaaccgg ctacagttcg gtgctgggac 420
caagctggag ataaaaggct ctactagtgg ttccgggaag agctctgaag gtaaagggtga 480
ggtccagctg cagcagtcctg gacctgagct ggtaaactct ggggcttcag tgaagatgtc 540
ctgcaaggcc tctggataca cattcattac ctatgttatg cactgggtga agcagaagcc 600
tgggcagggc cttgagtggg ttggatatat taatcctaac aaagacggta caaagttcaa 660
tgagaagttc aaaggcaagg ccacactgac ttcagacaaa tcctccaaca cagcctacat 720
ggagctcagc agcctgacct ctgaggactc tgcggtctat tactgtgcaa gagactatga 780
ttacgactgg tttgcttact ggggccaggg gactctggct actgtctctg caatcgatcc 840
cgggggtaac cgcggtaccg ccactaccgg tcgtccggct accaccactg gctcgagtcc 900
agggccacc cagtctcata gcgacgtcag cttcagcacc cgcggcacgc agaactggac 960
ggtggagcgg ctgctccagg cgcaccgcca actggaggag cgcggctatg tgttcgtcgg 1020

```

ctaccacggc accttctctg aagcggcgca aagcatcgtc ttccggcggg tgcgcgcgcg 1080
cagccaggac ctgcacgcga tctggcgcgg tttctatata gccggcgatc cggcgctggc 1140
ctacggctac gcccaggacc aggaaccoga cgcacgcggc cggatccgca acggtgccct 1200
gctgcgggtc tatgtgccgc gctcgagcct gccgggcttc taccgcacca gcctgaccct 1260
ggcgcgcgcg gaggcggcgg gcgaggtcga acggtgatc gcccatccgc tgcgcgtgcg 1320
cctggacgcc atcacgggcc ccgaggagga aggcgggcgc ctggagacca ttctcggctg 1380
gccgctggcc gagegcaccg tgggtattcc ctgcgcgatc cccaccgacc cgcgcaacgt 1440
cggcggcgac ctgcacccgt ccagcatccc cgacaaggaa caggcgatca gcgcctgcc 1500
ggactacgcc agccagcccg gcaaaccgcc ggtcgacgga ggtggagggt ctaagcacat 1560
caaggactgg gagcacctcg aagagttcta aactcgagtc taga 1604

```

<210> 19

<211> 1060

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

```

Met Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro
  1             5             10             15

```

```

Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Lys
      20             25             30

```

```

Met Gln Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile
      35             40             45

```

```

Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly
      50             55             60

```

```

Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala
      65             70             75             80

```

```

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu
      85             90             95

```

```

Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys Gly Ser Thr Ser Gly
      100            105            110

```

```

Ser Gly Lys Ser Ser Glu Gly Lys Gly Glu Val Gln Leu Gln Gln Ser
      115            120            125

```

```

Gly Pro Glu Leu Val Asn Pro Gly Ala Ser Val Lys Met Ser Cys Lys
      130            135            140

```

```

Ala Ser Gly Tyr Thr Phe Ile Thr Tyr Val Met His Trp Val Lys Gln
      145            150            155            160

```

```

Lys Pro Gly Gln Gly Leu Glu Trp Ile Gly Tyr Ile Asn Pro Asn Lys
      165            170            175

```

```

Asp Gly Thr Lys Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr
      180            185            190

```

```

Ser Asp Lys Ser Ser Asn Thr Ala Tyr Met Glu Leu Ser Ser Leu Thr
      195            200            205

```

```

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Asp Tyr Asp Tyr Asp

```

210	215	220
Trp Phe Ala Tyr Trp	Gly Gln Gly Thr Leu	Val Thr Val Ser Ala Val
225	230	235 240
Asp Gly Gly Gly Ser Met Lys Arg Met Leu Ile Asn Ala Thr Gln Gln		
	245	250 255
Glu Glu Leu Arg Val Ala Leu Val Asp Gly Gln Arg Leu Tyr Asp Leu		
	260	265 270
Asp Ile Glu Ser Pro Gly His Glu Gln Lys Lys Ala Asn Ile Tyr Lys		
	275	280 285
Gly Lys Ile Thr Arg Ile Glu Pro Ser Leu Glu Ala Ala Phe Val Asp		
	290	295 300
Tyr Gly Ala Glu Arg His Gly Phe Leu Pro Leu Lys Glu Ile Ala Arg		
305	310	315 320
Glu Tyr Phe Pro Ala Asn Tyr Ser Ala His Gly Arg Pro Asn Ile Lys		
	325	330 335
Asp Val Leu Arg Glu Gly Gln Glu Val Ile Val Gln Ile Asp Lys Glu		
	340	345 350
Glu Arg Gly Asn Lys Gly Ala Ala Leu Thr Thr Phe Ile Ser Leu Ala		
	355	360 365
Gly Ser Tyr Leu Val Leu Met Pro Asn Asn Pro Arg Ala Gly Gly Ile		
	370	375 380
Ser Arg Arg Ile Glu Gly Asp Asp Arg Thr Glu Leu Lys Glu Ala Leu		
385	390	395 400
Ala Ser Leu Glu Leu Pro Glu Gly Met Gly Leu Ile Val Arg Thr Ala		
	405	410 415
Gly Val Gly Lys Ser Ala Glu Ala Leu Gln Trp Asp Leu Ser Phe Arg		
	420	425 430
Leu Lys His Trp Glu Ala Ile Lys Lys Ala Ala Glu Ser Arg Pro Ala		
	435	440 445
Pro Phe Leu Ile His Gln Glu Ser Asn Val Ile Val Arg Ala Phe Arg		
	450	455 460
Asp Tyr Leu Arg Gln Asp Ile Gly Glu Ile Leu Ile Asp Asn Pro Lys		
465	470	475 480
Val Leu Glu Leu Ala Arg Gln His Ile Ala Ala Leu Gly Arg Pro Asp		
	485	490 495
Phe Ser Ser Lys Ile Lys Leu Tyr Thr Gly Glu Ile Pro Leu Phe Ser		
	500	505 510
His Tyr Gln Ile Glu Ser Gln Ile Glu Ser Ala Phe Gln Arg Glu Val		
	515	520 525
Arg Leu Pro Ser Gly Gly Ser Ile Val Ile Asp Ser Thr Glu Ala Leu		
	530	535 540

Thr Ala Ile Asp Ile Asn Ser Ala Arg Ala Thr Arg Gly Gly Asp Ile 545	550	555	560
Glu Glu Thr Ala Phe Asn Thr Asn Leu Glu Ala Ala Asp Glu Ile Ala 565	570	575	
Arg Gln Leu Arg Leu Arg Asp Leu Gly Gly Leu Ile Val Ile Asp Phe 580	585	590	
Ile Asp Met Thr Pro Val Arg His Gln Arg Ala Val Glu Asn Arg Leu 595	600	605	
Arg Glu Ala Val Arg Gln Asp Arg Ala Arg Ile Gln Ile Ser His Ile 610	615	620	
Ser Arg Phe Gly Leu Leu Glu Met Ser Arg His Arg Leu Ser Pro Ser 625	630	635	640
Leu Gly Glu Ser Ser His His Val Cys Pro Arg Cys Ser Gly Thr Gly 645	650	655	
Thr Val Arg Asp Asn Glu Ser Leu Ser Leu Ser Ile Leu Arg Leu Ile 660	665	670	
Glu Glu Glu Ala Leu Lys Glu Asn Thr Gln Glu Val His Ala Ile Val 675	680	685	
Pro Val Pro Ile Ala Ser Tyr Leu Leu Asn Glu Lys Arg Ser Ala Val 690	695	700	
Asn Ala Ile Glu Thr Arg Gln Asp Gly Val Arg Cys Val Ile Val Pro 705	710	715	720
Asn Asp Gln Met Glu Thr Pro His Tyr His Val Val Arg Val Arg Lys 725	730	735	
Gly Glu Glu Thr Pro Thr Leu Ser Tyr Met Leu Pro Lys Leu His Glu 740	745	750	
Glu Ala Met Ala Leu Pro Ser Glu Glu Glu Phe Ala Glu Arg Lys Arg 755	760	765	
Pro Glu Gln Pro Ala Leu Ala Thr Phe Ala Met Pro Asp Val Pro Pro 770	775	780	
Ala Pro Thr Pro Ala Glu Pro Ala Ala Pro Val Val Ala Pro Ala Pro 785	790	795	800
Lys Ala Ala Pro Ala Thr Pro Ala Ala Pro Ala Gln Pro Gly Leu Leu 805	810	815	
Ser Arg Phe Phe Gly Ala Leu Lys Ala Leu Phe Ser Gly Gly Glu Glu 820	825	830	
Thr Lys Pro Thr Glu Gln Pro Ala Pro Lys Ala Glu Ala Lys Pro Glu 835	840	845	
Arg Gln Gln Asp Arg Arg Lys Pro Arg Gln Asn Asn Arg Arg Asp Arg 850	855	860	

Asn Glu Arg Arg Asp Thr Arg Ser Glu Arg Thr Glu Gly Ser Asp Asn
 865 870 875 880
 Arg Glu Glu Asn Arg Arg Asn Arg Arg Gln Ala Gln Gln Gln Thr Ala
 885 890 895
 Glu Thr Arg Glu Ser Arg Gln Gln Ala Glu Val Thr Glu Lys Ala Arg
 900 905 910
 Thr Ala Asp Glu Gln Gln Ala Pro Arg Arg Glu Arg Ser Arg Arg Arg
 915 920 925
 Asn Asp Asp Lys Arg Gln Ala Gln Gln Glu Ala Lys Ala Leu Asn Val
 930 935 940
 Glu Glu Gln Ser Val Gln Glu Thr Glu Gln Glu Glu Arg Val Arg Pro
 945 950 955 960
 Val Gln Pro Arg Arg Lys Gln Arg Gln Leu Asn Gln Lys Val Arg Tyr
 965 970 975
 Glu Gln Ser Val Ala Glu Glu Ala Val Val Ala Pro Val Val Glu Glu
 980 985 990
 Thr Val Ala Ala Glu Pro Ile Val Gln Glu Ala Pro Ala Pro Arg Thr
 995 1000 1005
 Glu Leu Val Lys Val Pro Leu Pro Val Val Ala Gln Thr Ala Pro Glu
 1010 1015 1020
 Gln Gln Glu Glu Asn Asn Ala Asp Asn Arg Asp Asn Gly Gly Met Pro
 1025 1030 1035 1040
 Ser Phe Ser Pro Leu Ala Ser Ser Pro Ala Arg Lys Trp Ser Ala Ser
 1045 1050 1055
 Ser Ser Leu Ser
 1060

<210> 20
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 20
 actgcgccat ggcttacagt atcact

26

<210> 21
 <211> 72
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 21
ccgtcagacg tcagaacctc cacctccact tccgcgcct ccagttgcag gaccagaggt 60
ccaaaccaa cc 72

<210> 22
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 22
ctaccctcg agtttagtga tggatgatgg gatgagcggc cgcgtcgact gcagagacag 60
tgaccagagt c 71

<210> 23
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 23
ccctcactcg agtttagagc tcactcttct cagatccacg agcggccgca gaacctccac 60
ctccgtcgac tgcagagaca gtgaccag 88

<210> 24
<211> 1561
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 24
gaattcgtat tttacaaca attaccaaca acaacaacaa caacaacatt acaattacta 60
tttacaagga ccatggctta cagtatcact actccatctc agttcgtgtt cttgtcatca 120
gcgtggggccg acccaataga gttaattaat ttatgtacta atgccttagg aaatcagttt 180
caaacacaac aagctcgaac tgtcgttcaa agacaattca gtgaggtgtg gaaaccttca 240
ccacaagtaa ctgttaggtt cctgacagt gactttaagg tgtacaggta caatgcggta 300
ttagacccgc tagtcacagc actgttaggt gcattcgaca ctagaaatag aataatagaa 360
gttgaataatc aggcgaaccc cacgactgcc gaaacgttag atgctactcg tagagtagac 420
gacgcaacgg tggccataag gagcgcgata aataatttaa tagtagaatt gatcagagga 480
accggatctt ataatcggag ctctttcgag agctcttctg gtttggtttg gacctctggt 540
cctgcaactg gagcggcggg aagtggaggt ggaggttctg acgtcgtgct gacctcgtct 600
ccagcaatca tgtctgcac tccaggggag aaggtcacca tgacctgcag tgccagttca 660
agtgtgaagta aaatgcaat gtatcagcag aagtcaggca cctcccccac aagatggatt 720
tatgacacat ccaactggc ctctggagtc cctggctcgt tcagtggcag tgggtctggg 780
acctcttact ctctcacaat cagcagcatg gaggtgaag atgctgccac ttattactgc 840
cagcagtggg gtagtaacct gctcacgttc ggtgctggga ccaagctgga gataaaaggc 900
tctactagtg gttccgggaa gagctctgaa ggtaaagggt aggtccagct gcagcagtct 960
ggacctgagc tggtaaattc tggggcttca gtgaagatgt cctgcaaggc ctctggatac 1020

acattcatta	cctatgttat	gcaactgggtg	aagcagaagc	ctgggcaggg	ccttgagtgg	1080
attggatata	ttaatcctaa	caaagacggt	acaaagttca	atgagaagtt	caaaggcaag	1140
gccacactga	cttcagacaa	atcctccaac	acagcctaca	tggagctcag	cagcctgacc	1200
tctgaggact	ctgcggtcta	ttactgtgca	agagactatg	attacgactg	gtttgcttac	1260
tggggccagg	ggactctggt	caactgtctct	gcagtcgacg	cggccgctca	tcaccatcac	1320
catcactaaa	ctcgaggggt	agtcaagatg	cataataaat	aacggattgt	gtccgtaatc	1380
acacgtgggtg	cgtacgataa	cgcatagtgt	ttttccctcc	acttaaatacg	aagggttggtg	1440
tcttgatcg	cgcggtcaa	atgtatatgg	ttcatataca	tccgcaggca	cgtaataaag	1500
cgaggggttc	gaatccccc	gttaccccc	gtagggggcc	aggtaccggc	gcgcctctag	1560
a						1561

<210> 25

<211> 1582

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 25

gaattcgtat	ttttacaaca	attaccaaca	acaacaacaa	caacaacatt	acaattacta	60
tttacaagga	ccatggctta	cagtatcact	actccatctc	agttcgtggt	cttgatcatca	120
gcgtggggccg	acccaataga	gttaattaat	ttatgtacta	atgccttagg	aaatcagttt	180
caaacacaac	aagctcgaac	tgctgttcaa	agacaattca	gtgaggtgtg	gaaaccttca	240
ccacaagtaa	ctgttaggtt	ccctgacagt	gactttaagg	tgtacaggta	caatgcggta	300
ttagaccgc	tagtcacagc	actgttaggt	gcattcgaca	ctagaaaatag	aataatagaa	360
gttgaaaatc	aggcgaaccc	cacgactgcc	gaaacgttag	atgctactcg	tagagtagac	420
gacgcaacgg	tggccataag	gagcgcgata	aataatttaa	tagtagaatt	gatcagagga	480
accgatctt	ataatcggag	ctctttcgag	agctcttctg	gtttggtttg	gacctctggt	540
cctgcaactg	gaggcggcgg	aagtggaggt	ggaggttctg	acgtcgtgct	gaccagctct	600
ccagcaatca	tgtctgcatc	tccaggggag	aaggtcacca	tgacctgcag	tgccagttca	660
agtgtaaagta	aaatgcaatg	gtatcagcag	aagtcaggca	cctcccccaa	aagatggatt	720
tatgacacat	ccaaactggc	ctctggagtc	cctggtcgct	tcagtggcag	tgggtctggg	780
acctcttact	ctctcacaat	cagcagcatg	gaggctgaag	atgctgccac	ttattactgc	840
cagcagtggga	gtagtaaccc	gctcacgttc	ggtgctggga	ccaagctgga	gataaaaggc	900
tctactagt	gttccgggaa	gagctctgaa	ggtaaagggtg	aggtccagct	gcagcagttc	960
ggacctgagc	tggtaaatcc	tggggcttca	gtgaagatgt	cctgcaaggc	ctctggatac	1020
acattcatta	cctatgttat	gcaactgggtg	aagcagaagc	ctgggcaggg	ccttgagtgg	1080
attggatata	ttaatcctaa	caaagacggt	acaaagttca	atgagaagtt	caaaggcaag	1140
gccacactga	cttcagacaa	atcctccaac	acagcctaca	tggagctcag	cagcctgacc	1200
tctgaggact	ctgcggtcta	ttactgtgca	agagactatg	attacgactg	gtttgcttac	1260
tggggccagg	ggactctggt	caactgtctct	gcagtcgacg	gaggtggagg	ttctgcggcc	1320
gctcgtggat	ctgagaaaaga	tgagctctaa	actcgagggg	tagtcaagat	gcataataaaa	1380
taacggattg	tgtccgtaat	cacacgtggt	gcgtacgata	acgcatagtg	ttttccctc	1440
cacttaaatac	gaagggttggt	gtcttggtatc	gcgcgggtca	aatgtatatg	gttcatatac	1500
atccgcaggc	acgtaataaaa	gcgaggggtt	cgaatccccc	cgttaccccc	ggtagggggcc	1560
caggtaccgg	cgccctcta	ga				1582

<210> 26

<211> 1059

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 26

gaattcgtat	ttttacaaca	attaccaaca	acaacaacaa	caacaacatt	acaattacta	60
tttacaagga	ccatggccca	aattgttctc	acccagtctc	cagcaatcat	gtctgcatct	120
ccaggggaga	aggtcaccat	gacctgcagt	gccagttcaa	gtgtaagtaa	aatgcaatgg	180
tatcagcaga	agtcaggcac	ctcccccaaa	agatggattt	atgacacatc	caaactggcc	240
tctggagtcc	ctggtcgctt	cagtggcagt	gggtctggga	cctcttactc	tctcacaatc	300
agcagcatgg	aggctgaaga	tgtgccact	tattactgcc	agcagtggag	tagtaacccg	360
ctcacgttcg	gtgctgggac	caagctggag	ataaaaaggct	ctactagtgg	ttccgggaag	420
agctctgaag	gtaaagggtga	ggtccagctg	cagcagtctg	gacctgagct	ggtaaatcct	480
ggggcttcag	tgaagatgtc	ctgcaaggcc	tctggataca	cattcattac	ctatgttatg	540
cactgggtga	agcagaagcc	tgggcagggc	cttgagtgga	ttggatata	taatcctaac	600
aaagacggta	caaagttcaa	tgagaagttc	aaaggcaagg	ccacactgac	ttcagacaaa	660
tcctccaaca	cagcctacat	ggagctcagc	agcctgacct	ctgaggactc	tgcggtctat	720
tactgtgcaa	gagactatga	ttacgactgg	tttgcttact	ggggccaggg	gactctggtc	780
actgtctctg	cagtcgacgc	ggccgctcat	caccatcacc	atcactagct	cgaggggtag	840
tcaagatgca	taataaataa	cggatttgtt	ccgtaatcac	acgtgggtgcg	tacgataacg	900
catagtgttt	ttccctccac	ttaaatcgaa	gggttgtgtc	ttggatcgcg	cgggtcaaat	960
gtatatgggt	catatacatc	cgcaggcacg	taataaagcg	aggggttcga	atccccccgt	1020
tacccccggt	aggggcccag	gtaccggcgc	gcctctaga			1059

<210> 27

<211> 1077

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 27

gaattcgtat	ttttacaaca	attaccaaca	acaacaacaa	caacaacatt	acaattacta	60
tttacaagga	ccatggaaat	tgttctcacc	cagtctccag	caatcatgtc	tgcattctcca	120
ggggagaagg	tcacccatgac	ctgcagtgcc	agttcaagtg	taagtaaaat	gcaatgggtat	180
cagcagaagt	caggcacctc	ccccaaaaga	tggatttatg	acacatccaa	actggcctct	240
ggagtccttg	gtcgcttcag	tggcagtggt	tctgggacct	cttactctct	cacaatcagc	300
agcatggagg	ctgaagatgc	tgccacttat	tactgccagc	agtggagtag	taacccgctc	360
acgttcgggtg	ctgggaccaa	gctggagata	aaaggctcta	ctagtgggtc	cggaagagc	420
tctgaaggta	aaggtagagt	ccagctgcag	cagtctggac	ctgagctggt	aaatcctggg	480
gcttcagtga	agatgtcctg	caaggcctct	ggatacacat	tcattaccta	tgttatgcac	540
tgggtgaagc	agaagcctgg	gcagggcctt	gagtggattg	gatataattaa	tcctaacaaa	600
gacggtacaa	agttcaatga	gaagttcaaa	ggcaaggcca	cactgacttc	agacaaatcc	660
tccaacacag	cctacatgga	gctcagcagc	ctgacctctg	aggactctgc	ggtctattac	720
tgtgcaagag	actatgatta	cgactggttt	gcttactggg	gccaggggac	tctgggtcact	780
gtctctgcag	tcgacggagg	tggaggttct	gcggccgctc	gtggatctga	gaaagatgag	840
ctctagctcg	aggggtagtc	aagatgcata	ataaataacg	gatttgtgtc	gtaatcacac	900
gtggtgcgta	cgataacgca	tagtggtttt	ccctccactt	aaatcgaagg	gttggtgtct	960
ggatcgcgcg	ggtcaaatgt	atatggttca	tatacatccg	caggcacgta	ataaagcgag	1020
gggttcgaat	ccccccgtta	cccccggtag	gggccaggt	accggcgcg	ctctaga	1077

<210> 28

<211> 1654

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 28

gaattcgtat	ttttacaaca	attaccaaca	acaacaacaa	caacaacatt	acaattacta	60
------------	------------	------------	------------	------------	------------	----

```

tttacaagga ccattatgga ctttcaagtg cagattttca gcttcctcct catcagcgcc 120
tcagttatca tctctagggg atccatggct tacagtatca ctactccatc tcagttcgtg 180
ttcttgtcat cagcgtgggc cgacccaata gagttaatta atttatgtac taatgcctta 240
ggaaatcagt ttcaaacaca acaagctcga actgtcgttc aaagacaatt cagtgaagtg 300
tggaacacct caccacaagt aactgttagg ttccctgaca gtgactttaa ggtgtacagg 360
tacaatgcgg tattagacct gctagtcaca gcactgttag gtgcattcga cactagaaat 420
agaataatag aagttgaaaa tcaggcgaac cccacgactg ccgaaacgtt agatgctact 480
cgtagagtag acgacgcaac ggtggccata aggagcgca taaataattt aatagtagaa 540
ttgatcagag gaaccggatc ttataatcgg agctctttcg agagctcttc tggtttggtt 600
tggacctctg gtccctgcaac tggaggcggc ggaagtggag gtggagggtc tgacgtcgtg 660
ctgacccagt ctccagcaat catgtctgca tctccagggg agaaggtcac catgacctgc 720
agtgccagtt caagtgtaa gtaaatgcaa tggatatcagc agaagtcagg cacctcccc 780
aaaagatgga tttatgacac atccaaactg gcctctggag tccctggtcg cttcagtggtc 840
agtgggtctg ggacctctta ctctctcaca atcagcagca tggagggtga agatgctgcc 900
acttattact gccagcagtg gagtagtaac ccgctcacgt tcggtgctgg gaccaagctg 960
gagataaaa gctctactag tggttccggg aagagctctg aaggtaaagg tgagggtccag 1020
ctgacgcagt ctggacctga gctggtaaat cctggggcct cagtgaagat gtcctgcaag 1080
gcctctggat acacattcat tacctatgtt atgcactggg tgaagcagaa gcctgggcag 1140
ggccttgagt ggattggata tattaatcct aacaaagacg gtacaaaagt caatgagaag 1200
ttcaaaggca aggccacact gacttcagac aaatcctcca acacagccta catggagctc 1260
agcagcctga cctctgagga ctctgcggtc tattactgtg caagagacta tgattacgac 1320
tggtttgctt actggggcca ggggactctg gtcactgtct ctgcagtcga cggagggtga 1380
ggttctgcgg ccgctcgtgg atctgagaaa gatgagctct aaactcgagg ggtagtcaag 1440
atgcataata aataacggat tgtgtccgta atcacacgtg gtgcgtacga taacgcatag 1500
tgtttttccc tccacttaaa tcgaagggtt gtgtcttgga tcgcgcgggt caaatgtata 1560
tggttcatat acatccgcag gcacgtaata aagcgagggg ttcgaatccc cccgttaccc 1620
ccggtagggg ccaggtacc ggcgcgcctc taga 1654

```

<210> 29

<211> 259

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 29

```

Glu Val His Cys Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
  1                      5                      10                      15

```

```

Ser Val Lys Leu Ser Cys Arg Ala Ser Asp Tyr Thr Phe Thr Ser Tyr
      20                      25                      30

```

```

Tyr Met Tyr Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
      35                      40                      45

```

```

Gly Glu Ile Lys Pro Ser Gly Asn Gly Thr Asn Phe Asn Glu Lys Phe
      50                      55                      60

```

```

Lys Ser Lys Ala Thr Leu Thr Ser Asp Tyr Ser Ser Ser Thr Ala Tyr
      65                      70                      75                      80

```

```

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
      85                      90                      95

```

```

Thr Arg Ser Gly Asn Ala Met Asp Tyr Trp Gly Gln Gly Thr Thr Val
      100                      105                      110

```

```

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly

```

115

120

125

Gly Gly Ser Asp Ile Val Leu Thr Leu Ser Pro Ala Thr Leu Ser Val
130 135 140

Thr Pro Gly Asp Arg Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile
145 150 155 160

Ser Asn Phe Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg
165 170 175

Leu Leu Ile Lys Tyr Thr Ser Gln Ser Ile Ser Gly Ile Pro Ser Thr
180 185 190

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser
195 200 205

Val Asp Thr Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn Ser
210 215 220

Trp Pro His Arg Phe Gly Ser Gly Ile Lys Leu Glu Leu Lys Ser Ala
225 230 235 240

Val Asp Ala Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
245 250 255

Gly Ala Ala

<210> 30

<211> 267

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 30

Glu Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Asp Tyr Ser Phe Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly Asn Ile Asn Pro Tyr Tyr Gly Ser Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Val Gly Gly Asn Tyr Val Asp Trp Phe Ala Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 115 120 125
 Ser Gly Gly Gly Gly Ser Asp Ile Leu Leu Thr Gln Ser Pro Leu Ser
 130 135 140
 Leu Pro Val Ser Leu Gly Asp His Ala Ser Ile Ser Cys Arg Ser Ser
 145 150 155 160
 Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu
 165 170 175
 Gln Asn Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn
 180 185 190
 Arg Phe Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 195 200 205
 Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val
 210 215 220
 Tyr Phe Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gly Gly
 225 230 235 240
 Thr Lys Leu Glu Leu Lys Arg Ala Val Asp Ala Ala Ala Glu Gln Lys
 245 250 255
 Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 260 265

<210> 31
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 31
 catgccatga ctcgcggccc agccggccat ggc

33

<210> 32
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 32
 gaktgtrcagc ttcaggagtc rgga

24

<210> 33
 <211> 34

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 33
 catgccatga ctcgcggccc agccggccat ggcc 34

 <210> 34
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 34
 caggtgmagc tgawggartc tgg 23

 <210> 35
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 35
 catgccatga ctcgcggccc agccggccat ggcc 34

 <210> 36
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 36
 gaggtccagc trcarcartc tggacc 26

 <210> 37
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 37
 catgccatga ctcgcggccc agccggccat ggcc 34

<210> 38
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 38
catgccatga ctcgcggccc agccggccat ggcc 34

<210> 39
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 39
catgccatga ctcgcggccc agccggccat ggc 33

<210> 40
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 40
saggtccarc tgcagsaryc tggr 24

<210> 41
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 41
catgccatga ctcgcggccc agccggccat ggcc 34

<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no

natural origin

<400> 42
gaggttcagc tgcagcagtc tggg 24

<210> 43
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 43
catgccatga ctgcgggcc agccggccat ggcc 34

<210> 44
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 44
gargtgaagc tgggtggartc tggr 24

<210> 45
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 45
catgccatga ctgcgggcc agccggccat ggcc 34

<210> 46
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 46
gaggtgaags tymtcgagtc tgga 24

<210> 47
<211> 34
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 47

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 48

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 48

gargtgaagc tkgakgagwc tgr

23

<210> 49

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 49

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 50

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 50

gavgtgmwgc tkgtggagtc tggk

24

<210> 51

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 51

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 52
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 52
 gaggtgcarc tkgttgagtc tgggtg 25

 <210> 53
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 53
 catgccatga ctcgcggccc agccggccat ggcc 34

 <210> 54
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 54
 saggtycagc tkcagcagtc tgga 24

 <210> 55
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 55
 catgccatga ctcgcggccc agccggccat ggcc 34

 <210> 56
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 56
 cagatccagt tgggtgcagtc tgga 24

<210> 57
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 57
 catgccatga ctcgcggccc agccggccat ggcc 34

<210> 58
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 58
 caggtscacs tgrwgsagtc tggg 24

<210> 59
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 59
 caggtscacs tgrwgsagtc tggg 24

<210> 60
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 60
 caggttactc traaagwgts tggcc 25

<210> 61
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 61

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 62

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 62

gatgtgaact tggaagtgtc tgg

23

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 63

catgccatga ctcgcggcgc gcct

24

<210> 64

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 64

gacattgtgm tgwhcagtc tcca

24

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 65

catgccatga ctcgcggcgc gcct

24

<210> 66
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 66
gacattcaga tgattcagtc tcc

23

<210> 67
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 67
catgccatga ctcgcggcgc gcct

24

<210> 68
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 68
gacattgttc tcwhccagtc tcc

23

<210> 69
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 69
catgccatga ctcgcggcgc gcct

24

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 70
gacattgtgm tgwchcagtc tcaa

24

<210> 71
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 71
catgccatga ctcgcggcgc gcct

24

<210> 72
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 72
gatrttktga tgacccarrc kgca

24

<210> 73
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 73
catgccatga ctcgcggcgc gcct

24

<210> 74
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 74
gatrttktga tgacccarrc kcca

24

<210> 75
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 75

catgccatga ctcgcggcgc gcct

24

<210> 76

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 76

gacattgtga tgacccarbh tg

22

<210> 77

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 77

catgccatga ctcgcggcgc gcct

24

<210> 78

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 78

gatattktga tgacccaray tcc

23

<210> 79

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 79

catgccatga ctcgcggcgc gcct

24

<210> 80

<211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 80
 ramattgtgm tgacccaaty tccw 24

 <210> 81
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 81
 catgccatga ctcgcggcgc gcct 24

 <210> 82
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 82
 saaawtgk c tsacccagtc tcca 24

 <210> 83
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 83
 catgccatga ctcgcggcgc gcct 24

 <210> 84
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 84

gayatycaga tgacmcagwc tac

23

<210> 85

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 85

catgccatga ctcgcggcgc gcct

24

<210> 86

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 86

gayatycaga tgachcagwc tcc

23

<210> 87

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 87

catgccatga ctcgcggcgc gcct

24

<210> 88

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 88

gacattgtga tgactcaggc tac

23

<210> 89

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 89
catgccatga ctcgcggcgc gcct

24

<210> 90
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 90
carsygtks tsactcagka at

22

<210> 91
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 91
catgccatga ctcgcggcgc gcct

24

<210> 92
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 92
carsygtks tsactcagkc at

22

<210> 93
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 93
ctagtgttac tccacggccg gcccctg

27

<210> 94
<211> 20

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 94
 mrgagacdgt gasmgtrgtc 20

 <210> 95
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 95
 ctagtggtag tccacggccg gcccctg 27

 <210> 96
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 96
 mrgagacdgt gasrgtrgtg 20

 <210> 97
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 97
 ctagtggtag tccacggccg gcccctg 27

 <210> 98
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

 <400> 98
 mrgagacdgt gascagrgtc 20

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 99
ctagtgtac tccacggccg gcccctg 27

<210> 100
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 100
mrgagacdgt gastgaggtt 20

<210> 101
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 101
ctagtgtac tccacggccg gcccctg 27

<210> 102
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 102
mrgagacdgt gastgaratt 20

<210> 103
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no

natural origin

<400> 103
ctagtgggtac tccacgcggc cgcgtcgac 29

<210> 104
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 104
agcmcgtttc agytccaryt t 21

<210> 105
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 105
ctagtgggtac tccacgcggc cgcgtcgac 29

<210> 106
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 106
agcmcgtttk atytccaryt t 21

<210> 107
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 107
ctagtgggtac tccacgcggc cgcgtcgac 29

<210> 108
<211> 24
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 108

agcmcgtttb akvtctatct ttgt

24

<210> 109

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 109

ctagtgggtac tccacgcggc cgcgtcgac

29

<210> 110

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 110

agcmcgagcm cgtttttatctt ccaamkt

27

<210> 111

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 111

ctagtgggtac tccacgcggc cgcgtcgac

29

<210> 112

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 112

ctgrcctagg acagtsasyt tgggt

24

<210> 113
<211> 257
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 113

Met	Ala	Glu	Val	Gln	Leu	Gln	Gln	Ser	Gly	Ala	Glu	Leu	Val	Lys	Pro
1				5					10					15	
Gly	Ala	Ser	Val	Lys	Met	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr
			20					25					30		
Asn	Tyr	Asn	Met	His	Trp	Val	Lys	Gln	Thr	Pro	Gly	Gln	Gly	Leu	Glu
		35					40					45			
Trp	Ile	Gly	Ala	Ile	Tyr	Pro	Arg	Asn	Gly	Asp	Thr	Ser	Tyr	Asn	Gln
	50					55					60				
Lys	Phe	Lys	Gly	Lys	Ala	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Ser	Ser	Thr
65					70					75					80
Ala	Tyr	Met	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr
			85						90					95	
Tyr	Cys	Ala	Arg	Pro	Asp	Val	Trp	Gly	Ala	Gly	Thr	Leu	Leu	Thr	Val
		100						105					110		
Ser	Ala	Gly	Ala	Gly	Pro	Thr	Ser	Gly	Ser	Gly	Lys	Pro	Gly	Pro	Gly
	115						120					125			
Glu	Gly	Ser	Thr	Lys	Gly	Ala	Pro	Asp	Val	Leu	Met	Thr	Gln	Ala	Pro
	130					135					140				
Leu	Thr	Leu	Ser	Val	Thr	Ile	Gly	Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys
145					150					155					160
Ser	Ser	Gln	Ser	Leu	Leu	Asp	Gly	Asp	Gly	Lys	Thr	Tyr	Leu	Asn	Trp
			165					170						175	
Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser	Pro	Lys	Arg	Leu	Ile	Tyr	Leu	Val
		180						185					190		
Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro	Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser
	195						200					205			
Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu
	210					215					220				
Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly	Thr	His	Phe	Pro	His	Thr	Phe	Gly
225					230					235					240
Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala	Arg	Ala	Val	Asp	Ala	Ala
			245					250					255		

Ala

<210> 114
<211> 259
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 114
Met Ala Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Lys Pro
1 5 10 15
Ser Gln Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser
20 25 30
Thr Ser Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly
35 40 45
Leu Glu Trp Leu Ala His Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn
50 55 60
Pro Ser Leu Arg Ser Gln Leu Thr Ile Ser Lys Asp Thr Ser Arg Asn
65 70 75 80
Gln Val Phe Leu Arg Ile Thr Asn Val Asp Thr Ala Asp Thr Ala Thr
85 90 95
Tyr Tyr Cys Ala Arg Gly Tyr Tyr Gly Asn Asp Ser Pro Phe Ala Tyr
100 105 110
Trp Gly Gln Gly Thr Leu Leu Thr Val Ser Ser Gly Ala Gly Pro Thr
115 120 125
Ser Gly Ser Gly Lys Pro Gly Pro Gly Glu Gly Ser Thr Lys Gly Ala
130 135 140
Pro Asp Ile Val Leu Ser Gln Ser Pro Lys Phe Met Ser Thr Ser Val
145 150 155 160
Gly Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Ile Val Arg Thr
165 170 175
Ala Val Ala Trp Phe Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu
180 185 190
Ile Tyr Leu Ala Ser Asn Arg His Thr Gly Val Pro Asp Arg Phe Thr
195 200 205
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln
210 215 220
Ser Glu Asp Leu Ala Asp Tyr Phe Cys Leu Gln His Trp Asn Tyr Pro
225 230 235 240
Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala Val Asp
245 250 255

Ala Ala Ala

<210> 115
<211> 259
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 115
Met Ala Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro
1 5 10 15
Gly Gln Thr Val Lys Ile Ser Cys Lys Ala Ser Ala Tyr Thr Phe Thr
20 25 30
Asp Tyr Ser Met His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys
35 40 45
Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp
50 55 60
Asp Phe Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr
65 70 75 80
Ala Tyr Leu Gln Ile Asn Thr Leu Lys Asn Glu Asp Ser Ala Thr Tyr
85 90 95
Phe Cys Ala Arg Gly Ser Gly Phe Asn Pro Tyr Trp Gly Gln Gly Thr
100 105 110
Leu Val Thr Val Ser Ala Gly Ala Gly Pro Thr Ser Gly Ser Gly Lys
115 120 125
Pro Gly Pro Gly Glu Gly Ser Thr Lys Gly Ala Pro Asp Ile Val Leu
130 135 140
Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly Glu Lys Val Thr
145 150 155 160
Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys
165 170 175
Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu
180 185 190
Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg Phe
195 200 205
Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Val
210 215 220
Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Tyr
225 230 235 240
Val Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys Arg Ala Val Asp

Ala Ala Ala

<210> 116
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 116
Asn Leu Ile Val Glu Leu Ile Arg Gly Thr Gly Ser
1 5 10

<210> 117
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 117
Lys Thr Asp Leu Val Cys Arg Ala Thr
1 5

<210> 118
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 118
Arg Ile Val Ile Cys Gly Arg Val Thr
1 5

<210> 119
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 119
Arg Gly Thr Leu Pro Ala Arg Gly Thr
1 5

<210> 120
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 120
Val Gly Arg Gln Arg Asp Thr Gln Ser
1 5

<210> 121
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 121
Phe Leu Arg Val Asp Ala Arg Glu Thr
1 5

<210> 122
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 122
Val Ala Gly Met Leu Gly Lys Gly Thr
1 5

<210> 123
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 123

Arg Trp Glu Leu Ala Asn Arg Ser Thr
1 5

<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 124
Pro Ser Ala Leu Gly Thr Arg Glu Thr
1 5

<210> 125
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 125
Lys Asn Asp Leu Val Ser Arg Ala Thr
1 5

<210> 126
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 126
Gln Ile Val Ser Ala Trp Arg Glu Thr
1 5

<210> 127
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 127
Cys Ala Leu Pro Ala Arg His Ile Gly Arg Cys

<210> 128
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 128
Cys Gln Leu Pro Ala Arg Ala Thr Ser Ser Cys
1 5 10

<210> 129
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 129
Cys Ile Thr Ser Gln Arg Glu Thr Gly Trp Cys
1 5 10

<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 130
Cys Arg Arg Ser Thr Thr Gly Ile Cys
1 5

<210> 131
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 131
Cys Ser Thr Thr Leu Tyr Lys Arg Gly Thr Cys
1 5 10

<210> 132
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 132
Arg Val Asp Leu Pro Ala Arg Glu Thr
1 5

<210> 133
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 133
Lys His Ile Lys Asp Trp Glu His Leu Glu Glu Phe
1 5 10

<210> 134
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 134
Lys Arg Lys Asp Gly Glu His Trp Leu
1 5

<210> 135
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 135
Arg Gln Ala Lys Ser Trp Ser Ser Leu
1 5

<210> 136
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 136
Tyr Gln Ala Lys Glu Trp Ser Asn Leu
1 5

<210> 137
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 137
Lys Asp Trp Glu His Arg Val Pro Ser
1 5

<210> 138
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 138
Lys Asp Trp Glu His Leu
1 5

<210> 139
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 139
Lys Asp Trp Ser His Leu
1 5

<210> 140
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 140
Pro Lys Ser Asp Pro Gln Met Gly Lys Arg Arg Arg
1 5 10

<210> 141
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 141
His Pro Arg Pro Gln Leu Ala Ser Leu
1 5

<210> 142
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 142
His Pro Asp Pro Gln Ser Ser His Ser
1 5

<210> 143
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 143
Arg Phe Thr Asp Pro Gln Leu His Pro
1 5

<210> 144
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 144
Lys Gln Asp Pro Gln Gln Gln Lys Gln
1 5

<210> 145
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 145
Val Pro Asp Ser Gln Leu Glu Trp Pro
1 5

<210> 146
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 146
His Cys Asp Pro Gln Leu Tyr Gln Glu
1 5

<210> 147
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 147
Asp Pro Gln Met Phe Arg Arg His Cys
1 5

<210> 148

<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 148

Phe Lys Asp Gly Gln Leu Arg Pro Gln
1 5

<210> 149

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 149

Cys Pro Asp Pro Gln Leu Arg Leu His Arg Cys
1 5 10

<210> 150

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 150

Cys Pro Asp Pro Gln Leu Asn Gly Thr Arg Cys
1 5 10

<210> 151

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 151

Cys Pro Asp Pro Gln Leu Ser Ser Leu Arg Cys
1 5 10

<210> 152

<211> 11

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 152

Cys Pro Asp Pro Gln Leu Arg Leu His Arg Cys
1 5 10

<210> 153

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 153

Cys Pro Asp Pro Gln Leu Thr Leu His Arg Cys
1 5 10

<210> 154

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 154

Cys Pro Asp Pro Gln Leu Ser Leu Gln Arg Cys
1 5 10

<210> 155

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 155

Cys Pro Asp Ala Gln Leu Ser Gly Thr Arg Cys
1 5 10

<210> 156

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 156

His Pro Asp Pro Gln Leu Ser Leu His Arg
1 5 10

<210> 157

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 157

gcggaattcg acgtcgccat gggctgggaa caactggagc ag 42

<210> 158

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 158

gcgaagcttg tcgaccggcg gtttgccggg ctggctg 37

<210> 159

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 159

gcggaattcg acgtcgccat ggccttcctc ggcgacggcg gcgac 45

<210> 160

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 160

<210> 161
 <211> 1136
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 161

gaattcacac acaatcagat ttatagagag atttataaaa aaaaaaaac atatggactt 60
 tcaagtgcag attttcagct tcctcctcat cagcgccctca gttatcatct ctaggggatc 120
 catgggctgg gaacaactgg agcagtgcgg ctatccggtg cagcggtgg tcgccctcta 180
 cctggcgcg cggtgtgctt ggaaccaggt cgaccaggtg atccgcaacg cctggccag 240
 cccggcgagc ggcgcgaccc tgggcgaagc gatccgcgag cagccggagc aggcccgct 300
 ggccctgacc ctggccggcg ccgagagcga gcgcttcgtc cggcagggca ccggcaacga 360
 cgaggccggc gcggccaacg gcccggcgga cagcggcgac gccctgctgg agcgcaacta 420
 tccactggc gcggagttcc tcggcgacgg cggcgacgtc agcttcagca cccgcggcac 480
 gcagaactgg acggtggagc ggctgctcca ggcgcaaccg caactggagg agcgcggtta 540
 tgtgttcgtc ggctaccacg gcaccttcct cgaagcgcg caaagcatcg tcttcggcgg 600
 ggtgcgcgcg cgcagccagg acctcgacgc gatctggcgc ggtttctata tcgccggcga 660
 tcggcgctg gcctacggct acgcccagga ccaggaaccc gacgcacgcg gccggatccg 720
 caacggtgcc ctgctgcggg tctatgtgcc gcgctcgagc ctgccgggct tctaccgcac 780
 cagcctgacc ctggccgcgc cggaggcggc gggcgaggtc gaacggctga tcggccatcc 840
 gctgccgctg cgcttgagc ccatcaccgg ccccgaggag gaaggcgggc gcctggagac 900
 cattctcggc tggccgctgg ccgagcgac cgtgggtgatt ccctcggcga tccccaccga 960
 cccgcgcaac gtcggcgcg acctcgaccc gtccagcatc cccgacaagg aacaggcgat 1020
 cagcgccctg ccggactacg ccagccagcc cggcaaaccg ccggtcgacg gaggtggagg 1080
 ttctaacctc atcgttgaac ttatccgcgg taccggttct taaactcgag tctaga 1136

<210> 162
 <211> 827
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 162

gaattcacac acaatcagat ttatagagag atttataaaa aaaaaaaac atatggactt 60
 tcaagtgcag attttcagct tcctcctcat cagcgccctca gttatcatct ctaggggatc 120
 catggccttc ctggcgacg gcggcgacgt cagcttcagc acccgcgga cgcagaactg 180
 gacggtggag cggctgctcc aggcgcaccg ccaactggag gacgcggct atgtgttcgt 240
 cggctaccac ggcaccttc tcgaagcggc gcaaagcatc gtcttcggcg ggggtgcgcgc 300
 gcgcagccag gaactcgacg cgaactggcg cggtttctat atcgccggcg atccggcgt 360
 ggctacggc tacgcccagg accaggaacc cgacgcacgc ggccggatcc gcaacgggtg 420
 cctgctgcgg gtctatgtgc cgcgctcgag cctgccgggc ttctaccgca ccagcctgac 480
 cctggccgcg ccggaggcgg cgggcgaggc cgaacggctg atcgccatc cgtgcccgt 540
 gcgcctggac gccatcaccg gcccgagga ggaaggcggc cgcctggaga ccattctcgg 600
 ctggccgctg gccgagcga ccgtgggtgat tccctcggcg atccccaccg acccgcgcaa 660
 cgtcggcggc gaactcgacc cgtccagcat ccccgacaag gaacaggcga tcagcgccct 720
 gcggactac gccagccagc ccggcaaacc gccggtcgac ggaggtggag gttctaacct 780
 catcgttgaa cttatccgag gtaccggttc ttaaactcga gtctaga 827

<210> 163

<211> 1046
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 163

INS
C18

gaattcacac	acaatcagat	ttatagagag	atttataaaa	aaaaaaaaac	atatggattt	60
tcaagtgcag	atthtcagct	tctgctaata	cagtgcctca	gtcataatat	ctagaggaca	120
aattgtttctc	accaggtctc	cagcaatcat	gtctgcatct	ccaggggaga	aggtcaccat	180
gacctgcagt	gccagttcaa	gtgtaagtaa	aatgcaatgg	tatcagcaga	agtcaggcac	240
ctcccccaaa	agatggattt	atgacacatc	caaactggcc	tctggagtcc	ctggtcgttt	300
cagtggcagt	gggtctggga	cctcttactc	tctcacaatc	agcagcatgg	aggctgaaga	360
tgctgccact	tattactgcc	agcagtgagg	tagtaacccg	ctcacgttcg	gtgctgggac	420
caagctggag	ataaaaggct	ctactagtgg	ttccgggaag	agctctgaag	gtaaagggtga	480
ggtccagctg	cagcagttctg	gacctgagct	ggtaaattcct	ggggcttcag	tgaagatgtc	540
ctgcaaggcc	tctggataca	cattcattac	ctatgttatg	caactgggtga	agcagaagcc	600
tgaggcagggc	cttgagtggg	ttggatatat	taattcctaac	aaagacggta	caaagttcaa	660
tgagaagtgc	aaaggcaagg	ccacactgac	ttcagacaaa	tcctccaaca	cagcctacat	720
ggagctcagc	agcctgacct	ctgaggactc	tgggtcttat	tactgtgcaa	gagactatga	780
ttacgactgg	tttgcttact	ggggccaggg	gacctgtgtc	actgtctctg	cagtcgacga	840
acaaaaactc	atctcagaag	aggatctgaa	tgctgtgggc	caggacacgc	aggaggtcat	900
cgtgggtgcca	cactccttgc	cctttaaggt	ggtggtgatc	tcagccatcc	tggccctggg	960
ggtgctcacc	atcatctccc	ttatcatcct	catcatgctt	tggcagaaga	agccacgtta	1020
ggcggccgct	cgagcatgca	tctaga				1046